THE RELATIONSHIP OF PARENT'S FOOD PREFERENCES AND THEIR CLAIMS ON THEIR CHILDREN'S FOOD PREFERENCES TO THE ACTUAL FOOD CONSUMPTION BY THEIR CHILDREN AT THE NURSERY SCHOOL

by

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TABLE OF CONTENTS

LIST OF TABLES

TABLE PAGE

CHAPTER I

INTRODUCTION

Children's food preferences as they relate to their parents' food preferences and to the claims of their food preferences by their parents were investigated in this study. This research took place in the Nursery School at the Woman's College of the University of North Carolina in Greensboro, North Carolina.

The study of food preferences is important in its relation to health and family life. Adequate food is recognized as a basic need for the best nutrition and health of all. Foods that promote growth and development are vitally important for all young children. Providing nutritionally adequate meals for children is one step toward fulfilling this need. A second and important step is the actual consumption of these foods, plus the cultivation of desirable attitudes toward food. Knowledge of good nutrition, guidance, and encouragement in establishing good eating habits are the responsibility of all parents.

Food preferences are influenced by many of the same factors which limit food consumption. Individuals often prefer the foods they are accustomed to eating, due to local customs, family traditions, religious beliefs, season of the year, and the weather.

Acceptances of new or different foods may need to be learned. Since food consumption is vital to one's health, well being, and life itself, this learning process should begin early in the life of a child to insure a well-balanced diet. "Whether it is established as a good

working asset depends upon whether we let it grow." state Aldrich and Aldrich.[1]

Although food preferences are influenced by many factors, the development of these preferences is a learning process. This learning process begins in infancy as does the beginning of food consumption. The small child is not usually exposed to many worldly influences and it is understandable they seem to learn most, at first from the examples of other members of the family. Mealtime is often a time when family traditions are built and family communication and harmony are at their best. The pleasant atmosphere around the family table may be less than pleasant when food preferences are demonstrated.

If sufficient research were available which showed that food preferences of children are related to their parents' preferences, interested parents could influence their children into developing a liking for most foods. When food preferences include a large variety of foods, meal planning and food purchasing can be made easy for the homemaker. Each food added to a list of foods preferred can be an added bit of pleasure to the joy of good eating.

I. PURPOSE OF STUDY

The magnitude of the problems of food preference was realized as they have related to health and family life. The writer's association with these problems observed in the nursery school and at home with

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[1] C. Anderson Aldrich and Mary M. Aldrich, Babies Are Human Beings (New York: The MacMillan Company, 1949), p. 64.

pre-school children prompted this study. The primary purpose of this study was (1) to determine the relationship of parents' food preferences to their children's food preferences, and (2) to determine the relationship of parents' claims of their children's food preferences to the actual food consumed by their children.

The writer's hypothesis was that children's food preferences are similar to their parents' preferences. It was also the belief that parents would list their child's degree of preference in relation to their own degree of preference.

II. DEFINITIONS OF TERMS USED

For the purpose of clarity to the reader in the use of the term throughout this paper, food preference shall be defined as indicating an order of choice. This is not to be confused with the terms food habits, which are acquired by repetition or food attitudes which are more a feeling or mood itself.[2]

III. ORGANIZATION OF REMAINDER OF THESIS

The remaining chapters include a review of the literature related to children's food preferences and the feeding of nursery school children. Within the procedure used in this study there is a description of the nursery school in which the study took place, and information regarding

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[2]Noah Webster, Webster's Collegiate Dictionary (Springfield: G & C Merriam Company, 1945), pp. 782, 446, 70.

the participants. The selection of the foods served, method of measurement, method of recording information and physical procedure are discussed in Chapter III. The collected data is presented in Chapter IV followed by a discussion of its results. The fifth and final chapter summarizes the study and presents the conclusions drawn by the researcher and recommendations for future research in regard to children's food preferences.

CHAPTER II

REVIEW OF THE LITERATURE

Much has been written in regard to the nutritional requirements of various individuals and the consumption of food as related to growth and development,[1] however, there has been little research conducted on food preferences of children as related to their parents' food preferences. No study was available that presented data in regard to the relation of parents' claims on their children's food preferences to the actual consumption by their children. Closely related studies involving the feeding of nursery school children shall be cited along with those few directly related to food preferences.

I. GROWTH GRADIENTS

The twelve boys and twelve girls participating in the study were three and four years old and enrolled in the Woman's College Nursery School. Lunch was served to the children at the conclusion of the morning period. In order to better understand what eating habits can be expected from normal children of this age level growth gradients are quoted from Gesell and Ilg as follows:

> Three years - Appetite - Fairly good - less variable than formerly. Breakfast and supper may be best meals. Milk intake increasing. Refusals and Preferences - Less marked than earlier. Meat, fruit,

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[1] Margaret S. Chaney, Nutrition (Boston: Houghton Mifflin Company, 1960), pp. 7, 474.

milk, desserts and sweets are favored. Vegetables are now accepted. Child likes foods which require chewing. May ask for special foods he likes as meal is being prepared.
Self-Help - Can feed himself and can eat well by himself. May be too demanding, both of food and of attention, if allowed at the family table, or may dawdle.

Four years - Appetite - Appetite is fair. Child drinks his milk rapidly and well.
Refusals and Preferences - Food jags or food strikes indicate marked and definite preferences for certain foods and dislikes of others.
Self-Help - Child is beginning to help plan his meals. Helps set the table. May dawdle if eats alone though does not need to be fed.[2]

There are physiological reasons for changes in food preferences. Laird and Breen report on the gradual disappearance of taste buds throughout life.[3] During early childhood taste buds are present on the inside of cheeks and in the throat, in addition to the tongue. During adolescence these disappear and chiefly those of the tongue remain.

> These basic changes explain the alterations in food enjoyment as the individual passes from childhood into maturity. Foods which the child did not enjoy become palatable in maturity, not necessarily because the child was temperamental or finicky but rather because his rich supply of taste buds very possibly brought out taste characters which the adult mouth does not sense, or at least does not sense with equal acuity.[4]

II. PLANNING WELL BALANCED MEALS IN NURSERY SCHOOL

As a result of research excellent guides are available to aid in the planning and the preparation of well balanced meals to be served in

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[2] Arnold Gesel and Frances L. Ilg, Child Development (New York: Harper and Brothers, 1949).

[3] Donald A. Laird and William J. Breen, "Sex and Age Alterations in Taste Preferences," Journal of American Dietetic Association, XV (August-September, 1939), 549.

[4] Loc. cit.

the nursery school. In Lowenberg foods and amounts to be included in the daily diets are stated at the different age levels during the preschool years.[5] She also includes suggestions for storing, preparation, and the serving of foods. Her suggestions, as a result of professional experience with thousands of children, offer methods for making the child feel secure, happy, relaxed, rested, and comfortable. She states that children are expected to eat, although not the same amounts or the same foods. Portions should be small and easy to manage so as not to discourage the small child.

Another guide on feeding children in nursery schools resulted from studies by Sweeny and Breckenridge[6] and includes ways of preparing food for young children, methods of standardizing the food preparation and a study of the food consumption habits of the preschool child. Factors brought out as important to remember in feeding children were: the attitude of adults; the sight, taste, and smell of the food served; variety in texture and consistency; contrast of color, flavor, and texture; careful preparation and attractive service. They state that:

> The average child will eat new foods without resistance if the approach is made and the right interest developed. With the application of common sense, the child can usually learn to take and like most foods. The period of learning with some children is long and others short.[7]

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[5]Miriam E. Lowenberg, Food for Young Children in Group Care, United States Department of Labor, Publidation 285, (Washington: Government Printing Office, 1942).

[6]Mary E. Sweeny and Miriam E. Breckenridge, How to Feed Children in Nursery Schools (Detroit: The Merrill Palmer School, 1951).

[7]Ibid., p. 17.

In addition to meeting the nutritional requirements Spock and Lowenberg give a summary of suggestions for menu planning, many of which would tend to avoid food aversions among school children.

1. Follow a pattern to include the foods necessary for energy and growth.
2. Introduce new foods one at a time in small amounts.
3. Combine one less popular food with several popular foods in a meal.
4. Use as few hard-to-handle shapes of food as possible.
5. Use colorful foods to give the plate a pleasing appearance.
6. Combine foods of varying textures.
7. Combine several foods of mild flavor with only one pronounced flavor.
8. Visualize the so-called topography of the meal.[8]

Glaser, using as subjects sixteen children enrolled in the college nursery school at New Mexico Western College, developed methods for introducing new foods into the nursery school child's diet.[9] She suggests introducing new foods one at a time, not more than one per week and in small amounts. She found helpful factors were a positive attitude, a happy relaxed atmosphere, and the sense of being one of the group. The children were allowed to help prepare and serve and there was anticipation of something new. Food dislikes were never discussed in the child's presence.

Factors affecting the size of serving for nursery school children has been investigated by Holloway and by Morse and Chittenden. It was Holloway's hypothesis that the smaller the portion the more the child would

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[8]Benjamin Spock and Miriam E.Lowenberg, Feeding Your Baby and Child (New York: Duell, Sloan and Pearce, 1955), p. 160.

[9]Adelaide Glaser, "Effects of Building Food Acceptances in Nursery School Children," Journal of Home Economics, XLIX (January, 1957), 47-49.

consume.[10] This did not prove true in his study involving milk consumption by preschoolers. The larger portion subgroups consumed more than the smaller portion subgroups. The milk consumption also decreased the last half of the study for all participants. Holloway attributed these results partially to the "laissez faire" policy during the study which immediately followed an authoritarian policy held previously.

Morse and Chittenden investigated the effect of size of the initial food serving on the eating efficiency of a group of preschool children.[11] It was concluded that children eat more in less time when given small servings, although the difference was not statistically significant.

Food preferences of some of the adults today might be traced back to the years of strict discipline and forced eating. Ilg and Ames wrote of the period in our culture in the United States when science in its most sterile and dogmatic form took over the control of eating behavior:

> Everything was known; everything was ordered. The child was to eat certain quantities at certain times. Ounces, calories and the clock became absolute tyrants, and the poor child was too often lost sight of. Some children succumbed by giving in and adjusting, but others could not or would not. They became our feeding problems, which were multiple in the 1920's and 1930's.[12]

The trend of thought in family relationships is different today.

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[10] Harold D. Holloway, "Quantity and Chronological Age as Factors in Quantity of Milk Consumed by Preschoolers," Child Development, XXXI (December, 1960), 729-737.

[11] Majorie Johnson Morse and Gertrude E. Chittenden, "Effect of Size of Initial Food Serving on the Eating Efficiency of a Group of Pre-School Children," Journal of Experimental Education, XI (June, 1943), 268-279.

[12] Frances L. Ilg and Louise Bates Ames, Child Behavior (New York: Harper & Brothers, 1955) p. 69.

It has been realized that the cultural demands must be modified to meet the child's demands, and must adapt to what he can accept. There has been a marked reduction in feeding problems since the demands and needs of the child as well as the demands of the culture have been given consideration.

III. FOOD PREFERENCE STUDIES

Leverton measured teenagers' food preferences by using a questionnaire which they checked themselves.[13] The average age of the subjects in her study was thirteen and one-half years including boys and girls living on farms and in towns. A selection of forty-five foods was used which were low in cost and of good nutritional value or selected because they were associated with definite prejudices.

Measured results obtained from research are quite different from hearsay information on food preferences. An accurate method of measurement is difficult on something as changeable and variable as food preferences. The child of nursery school age can neither read nor understand the terminology used in determining degrees of preference. Unlike the Leverton study a three or four year old could not check his preferences and his ability to recall would not be reliable, therefore, a method of measurement of an intangible such as food preference had to be designed to suit the age level under study.

The method of measurement of food preference used by Vance was the

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[13] Ruth M. Leverton, "Food Choices of Nebraska Children," Journal of Home Economics, XLIII (March, 1951), 176-178.

recording of the order in which the children tested the foods as well as the order in which they finished.[14] It was interesting to note in this study that occasionally the recorder had to rely solely on the finishing order of the foods since it was difficult to record the first tastes of enthusiastic and hungry three and four year olds. Vance thought that the taste preference was the largest single factor affecting the order in which the children finished their foods over other easily eaten foods. With the exception of fish, the foods served less frequently were eaten first.

In a study by Vance and Temple comparing the food preferences of rural children with children of the Iowa State College Nursery School, the method of measurement used was the order of testing and finishing of seventy-two foods taken from an arbitrary sample.[15] Forty children were observed for three meals for three successive days. The degrees of preference used in this study were (1) Indifferent, (2) Dislike, (3) Refuse, (4) Not offered. The nursery school children were observed in the nursery school by the researcher. The rural children were observed by their mothers at home under normal home conditions. Menus had been given to the mothers who prepared the food and had been instructed as to uniform size servings. Vance concluded that experience at the nursery school makes a change in the reactions of children to foods commonly

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[14]Thomas F. Vance, "Food Selections of Nursery School Children," Child Development, III (June, 1932), 170-174.

[15]Thomas F. Vance and Verna M. Temple, "The Food Preferences of Preschool Children," Child Development, IV (September, 1933), 224-228.

served at the nursery school. Preferences tend to be less marked and in some instances the order of preferences actually may be changed.

Food consumption and preferences of the preschool child were investigated by Lamb and Ling at the Nursery School of Texas Technological College[16] and conclusions reached which were of interest to this study are as follows:

1. By comparing the food consumption records with established standards, although the nutritional intake of the child was generally adequate, he could still fall short of the recommended amount.

2. The preschool child has learned to like a wide variety of foods by the time he reaches nursery school age and to regard eating as a pleasant occurrence.

3. Preschool children of this locality have a tendency to like green and yellow vegetables least of all the major food divisions and to increase this lack of interest with age.

4. Frequently inadequacy in amounts and kinds of food consumed can be traced to faulty meal planning on the part of the responsible adult rather than to a lack of positive liking of the child for these foods in order to insure their optimum health and development.

5. When food consumption, food preference and physical status records of the so called normal and healthy children are simultaneously taken and analyzed, it becomes apparent that there is still much that can be done by way of improving their dietary practices.[17]

In order to investigate the food preferences and aversions of a group of young children, and to determine their relationships to food aversions among members of their families, McCarthy conducted a study

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[16]Mina Wolf Lamb and Bing-Chung Ling, "An Analysis of Food Consumption and Preferences of Nursery School Children," Child Development, XVII (December, 1946), 217.

[17]Ibid.

at the University of Georgia.[18] Using as subjects the forty-eight children enrolled in the University Nursery School, attention was devoted to (1) the kinds of food offered to a group of feeding problem cases and to a similar group of normal eaters; (2) the kind of food most frequently liked, disliked, and refused by each group and the frequencies of those attitudes in each group; (3) the relation between age and attitude toward food; (4) the frequency of identical child and family food dislikes; and (5) frequencies of identical child-parent and of child-sibling food aversions. Results from McCarthy's study are as follows:

> There tends to be a growing indifference to foods with increase in age (rho = .52) possibly indicative of a general dulling of appetite or a tendency for older children to express their indifference toward food more freely.
>
> Food aversions on the part of members of the family are associated with about thirty-five per cent of children's food aversions.
>
> There was a much higher percentage of identical food aversions among siblings than between children and parents in both groups.[19]

Lowenberg and Bryan agreed with McCarthy that food preferences may not depend alone on taste or appetite, but are influenced by the close association of the child with members of his family.[20] This study was conducted at the Pennsylvania State University Nursery School with

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[18] Dorothea McCarthy, "Children's Feeding Problems in Relation to the Food Aversions in the Family," Child Development, VI (December, 1935), 277-284.

[19] Ibid.

[20] Miriam E. Lowenberg and Marian S. Bryan, "The Father's Influence on Young Children's Food Preferences," Journal of American Dietetic Association, XXXIV (January, 1958), 30-35.

sixty-one children and using thirty-six familiar and representative foods selected arbitrarily. Information was gathered from the father by direct interview as to whether or not he liked, accepted, or refused each of the selected foods. The mother was queried on the child's reactions. The conclusions drawn from this study were (1) it is difficult to measure the influence of a father on his preschool child's preferences because the child does not have as wide experience as does his father; (2) the child's preferences are not well established; (3) the father's main influence on his child's food preferences appears to be in the limitation of the variety of food offered to the child. Eighty-nine per cent of the mothers indicated foods disliked by the fathers were served infrequently.

Although the study by this researcher makes no differential between sexes as related to food preferences, it should be noted that a study was made by Wellen on sex differences in food dislikes.[21] College students checked a list of one hundred forty-three foods resulting in the conclusion that considerable uniformity exists between sexes in the extent to which foods are disliked.

Almost any research conducted on nursery school children and the food they eat must give consideration to food preferences. The writers cited in this chapter have all made at least slight references to factors influencing food preferences even when the research was conducted on a different phase of nursery school feeding.

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[21]Richard Wallen, "Sex Differences in Food Aversions," Journal of Applied Psychology, XXVII (June, 1943), 286-298.

CHAPTER III

PROCEDURE

This study on the relationship of parents' food preferences and their claims on their children's food preferences to the actual food consumption by their children was conducted to investigate the hypothesis that children's food preferences are similar to their parents' preferences. It was also the hypothesis of the researcher that parents think their children's food preferences are similar to their own.

I. LOCATION OF STUDY

The location of this study was the nursery school at the Woman's College of the University of North Carolina in Greensboro, North Carolina, which is the laboratory for courses in child development and for research for students working toward graduate degrees. The nursery school is located on campus and is a part of the School of Home Economics. Students in other departments such as education, physical education and psychology have observed and conducted research studies in the Woman's College Nursery School.

The physical layout of the nursery school is of contemporary architecture and contained within a unit all its own. The building is located on the college campus and is not attached to any other building. It is used soley for the nursery school and the toddler groups of children. Within the building are two large class rooms, one for three year old children and one for four year old children. Observation

rooms with one way glass are near each of the class rooms. Before mealtime one room is used as a rest or nap room for all children while the other serves as a dining room. The tables are arranged and set up from the adjoining kitchen which is well equipped with up to date electrical equipment. There is a full time experienced cook on the staff who was selected for her willingness to cooperate with the nursery school program as well as her knowledge of food preparation.

The Nursery School staff offices are located in the building, also a testing room and an attractively furnished lobby. The lobby is used for parents' meetings and displays available books and pamphlets of interest to parents. The outside play area provides covered as well as open play space and equipment conducive to creative and physical play.

II. SELECTION OF SUBJECTS

Participating in this study were the twelve boys and twelve girls enrolled in the regular school session at the nursery school. Although children are selected on a first come basis the enrollment is necessarily a selective group. This is due to the fact that mothers must not be working mothers in order to participate in the complete program of the nursery school. This method of selection eliminates families of the economic group in which it is necessary for both parents to work.

The parents participating in this study were the parents of the children enrolled in the Woman's College Nursery School at the time the

study was conducted. Classified in the middle and upper socio-economic group the following professions were represented by the fathers: one architect, two chemists, two doctors, one druggist, four proprietors, three salesmen, one accountant, one advertising manager, one sales manager, one executive vice president, one meat packing owner, one scrap iron owner, one steel estimator, one mortgage loan analyst, one manufacturer, and one trade union director.

The nursery school's primary functions of teaching college students and providing a laboratory for research were explained to all parents of nursery school children in a pre-school parents' conference. Frequent conferences were held with parents and they were informed by the nursery school staff that cooperation was expected from them in the total nursery school program. Under the circumstances, it was not unusual that one hundred per cent participation in this study was obtained.

III. PROCEDURE USED IN STUDY

Parents were told in a parents' group meeting that they would be contacted in regard to a study on food preferences. The nature of the study was not explained since it was thought that a complete explanation might influence the parents' answers. At the beginning of the study each home was visited by the researcher and one or both parents interviewed. A letter of introduction and explanation was given to each parent as shown in Appendix A. This letter was accompanied by a list of the sixty-nine foods, (see Appendix B). The

parents were unaware that these were the sixty-nine foods which were to be served to the nursery school children during the nine weeks of study. To facilitate identification for the parents and the researcher the foods were listed on blue sheets for the father and pink sheets for the mother. Parents were asked to check to the left of the list of foods whether or not the food was served in their home and to check to the right their own preferences. Parents were instructed to answer independently and to discuss their answers with no one. Due to the great variance of degrees of food preferences five degrees of preference were used in this study giving greater accuracy in results. The following degrees of preference were checked by the parents:

1. Like very well
2. Like moderately well
3. Accept indifferently
4. Dislike moderately
5. Dislike very much

Two to three weeks after the parents checked sheets on their own food preferences they were handed a second letter of instructions (see Appendix C) and a second list of foods on which to check their nursery school child's preferences as shown in Appendix D. Again they were instructed to answer to the best of their knowledge without consulting the child or their spouse. The researcher did not indicate to the parent that the list of foods to be checked on their child's food preferences was identical to the list they had previously checked on their own food preferences.

IV. MENUS USED IN STUDY

Menus made out for the luncheon meal were served at the regular luncheon hour at the nursery school. A set of menus for three weeks was used and repeated three times for a total of nine weeks or forty-five meals. Three weeks menus were used in order to include most of the basic foods commonly eaten in the locale of the study. A replica of three was chosen for greater accuracy and in the hopes of eliminating blank recordings due to absenteeism. This also allowed for days when a child's eating pattern might be abnormal due to a physical condition or a change in his emotional behavior. One example was the day the children returned to lunch after having visited the circus. Food consumption was extremely low and it was assumed it was due to the excitement of the excursion and the teachers did not feel the records indicated a true picture of the child's food preference.

The selection of the foods served gave consideration to the suggestions made by Lowenberg,[1] and Spock and Lowenberg.[2] The meals were considered well balanced and followed the pattern of including a meat or meat substitute, two vegetables, a raw vegetable or fruit salad, bread, milk and dessert. There was variety in texture and consistency with crisp or crunchy foods served along with soft foods.

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[1]Miriam E. Lowenberg, Food for Young Children in Group Care, United States Department of Labor, Publication 285, (Washington: Government Printing Office, 1942).

[2]Benjamin Spock and Miriam E. Lowenberg, Feeding Your Baby and Child, (New York: Duell, Sloan and Pearce, 1955), p. 160.

Each meal was attractively served with contrast of color and flavor, combining one less popular food with several more popular foods. Foods were served in easy to handle shapes such as bite size strips of roast beef and bread cut in quarter sections.

The nursery school policy regarding birthdays permitted cup cakes to be brought by the parents and served along with ice cream for dessert. The menus were adjusted to include these special days and to have ice cream and cup cakes served the same number of times in each three weeks period, although served separately when there were not birthdays. In order to include these foods the same number of times in each three week period the ice cream would be served alone and the cup cake would be served along with fruit as dessert for the meal. The menus used for the entire nine weeks are presented in Appendix E.

The menus were presented to a panel of judges, consisting of a nursery school teacher and two graduate assistants, all of whom worked in the nursery school in which the study was conducted. The judges also ate the luncheon meal regularly with the children participating in the study.

V. PRETEST

A two weeks pretest was made prior to the actual collection of data. This was helpful in determining the best procedure to use in the measurement of portions and recording of plate waste. This two weeks provided an opportunity for making any necessary changes

and gave the children time to adjust to a change in routine. The children had previously participated in several studies in the nursery school and adapted readily to changes in routine which were necessary for the research designed.

Regularly family style meals had been served in the nursery school. In this procedure serving bowls of food were placed on the tables and children helped themselves to the desired portions. The children had also been allowed to help with the setting of the tables and the clearing of the tables. During the nine weeks this study covered there was a rearrangement of the five tables with a teacher or graduate assistant seated at each table. The tables were set by a college student and each child's identifying mark placed each day.

Two round tinker toys were put together with a two inch tinker toy peg in a fashion similar to a movable highway stop sign. The base lay flat with a peg centered and on top of the peg the other round tinker toy was placed perpendicular to the base. On this was printed the child's name on one side and his identifying sticker on the other. The identifying sticker, a flower, bird, dog, etc., was the same used on his locker and nap roll. The child's place was identified by the use of the tinker toy name plate placed in front of the plate and returned to the kitchen.

Each child's glass had his name marked on the bottom with an indelible marking pencil which did not wash off after repeated washings in the dishwasher. It was found that the marks remained on plastic glasses better than on those of glass. This helped identify the child's

glass as well as his dessert dish after he had left the table. There was less confusion and records were kept more accurately when the children left the tables leaving their glasses and dessert dishes at their places. This was also a change in their former routine.

The cook on the nursery school staff, with the assistance of a college student, prepared and served the food following directions given by the researcher. Plates were served and placed on the tables before the children came in to the dining room. Measurement was by teaspoonful and tablespoonful for expediency in serving and providing second servings for eager, hungry children. Each child brought his plate back for seconds at which time these amounts were also recorded.

The portions first served on the children's plates were smaller than suggested servings by Lowenberg[3] and by Sweeny and Breckrenridge.[4] The size of portions was decided upon based on knowledge of the group's eating habits. All children received the same amount of food at the beginning of the meal. Second servings were always available. Small servings would lessen the tendency to discourage the child with the very small appetite.

For this study the following portions were used:

Meats
- Popular - two tablespoons
- Less popular - one tablespoon
- Frankfurters - one frank

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[3] Lowenberg, loc. cit.

[4] Mary E. Sweeny and Miriam E. Breckenridge, How to Feed Children in Nursery Schools (Detroit: The Merrill Palmer School, 1951).

Cooked vegetables
- Popular - two tablespoons
- Less popular - one tablespoon

Raw vegetables
- Sticks of celery or carrot - two two-inch sticks
- Lettuce - one quarter leaf
- Apple or tomato - one-fourth medium
- Slaw - one tablespoon

Soup - one-third cup

Bread
- Sliced loaf - one-half slice
- Cornbread - one two-inch medium
- Biscuit or muffin - one medium

Desserts
- Ice Cream - five tablespoons
- Cookies - one cookie
- All others - one-third cup

Milk - one-half cup

VI. DATA COLLECTION

The nursery school children were free to eat as much as they liked and were not urged to eat by the teacher. During the meal the teacher recorded the child's physical condition and emotional behavior on forms shown in Appendix F. The teacher seated at each table was the same teacher who had been with those same children most of the day; therefore, she noted any unusual event which might have influenced the child's appetite for the day. This information recorded was of little value and has not been reported in the chapter on results. The lack of any significant value noted here was attributed to the daily health check. The head teacher checked children for red throats, unusual rashes, sniffles and any other abnormality. If a child was not

enjoying his normal state of health the child was sent home. When children were unhappy about going to school the philosophy of the school was to have the child stay out and come back the following day; therefore the child who had emotional and health upsets stayed at home and did not attend nursery school. If a child got sick during the day he was sent home. The emotional behavior of the children was usually very stable and the children were pleasant and happy most of the time. This can be attributed to the well trained staff and well equipped school. This was a better than average situation and not subject to many of the problems which might be confronted in a less adequate situation.

The meal was served in two courses, the main course, including meat, vegetables, salad and bread, and the dessert course. When the main course of the meal was finished the children returned their plates to the kitchen, always placing their tinker toy name plates on their plates for the benefit of the researcher recording results. The child picked up his dessert from the serving window and returned to his table. As the plates were returned to the kitchen plate waste was recorded for each child on prepared forms as shown in Appendix G.

The method used for determining the child's food preference was in measuring the plate waste. The plate waste was subtracted from the total amount of food served, thus giving actual food consumption. The percentage was determined of each food eaten at each meal as related to the total consumption of food for that meal. The child's average consumption for each food was determined by averaging the daily

percentages.

This study on food preferences was conducted at the Nursery School at the Woman's College of the University of North Carolina. Participating in the research were twelve boys and twelve girls, ages three and four, and the parents of these same children. The parents checked their food preferences on the sixty-nine foods which were to be served the children in the nursery school. The parents also checked their children's preferences on these same foods. The children's food preferences were calculated by recording plate waste and determining the percentage of consumption of each food during nine weeks of luncheon meals.

CHAPTER IV

PRESENTATION AND DISCUSSION OF RESULTS

It was the hypothesis of the researcher that nursery school children developed food preferences similar to the food preferences of their parents. It was also the hypothesis that parents thought their children's preferences were similar to their own. These were undocumented statements. Documentation was sought through the research conducted at the Nursery School at the Woman's College of the University of North Carolina. This study was conducted to determine the relationship of parents' food preferences and their claims on their children's food preferences to the actual food consumption by the children.

I. DATA COLLECTION

The data collected in this investigation were information on (1) parents' preferences, (2) parents' claims on their child's preferences, and (3) the child's actual food consumption. The following symbols were used in charting results and shall be used in reference throughout this study:

FP father's preference
MP mother's preference
PCF preference of child as indicated by father
PCM preference of child as indicated by mother
CAC child's average consumption

Parents' Food Preferences

The parents checked their own food preferences on the sheets listing the sixty-nine foods (see Appendix B) which were to be served their children in the nursery school during the nine weeks of data collection. Mothers' preferences (MP) and fathers' preferences (FP) were recorded separately. The numbers one through five were assigned to the description of preferences in the following order with N being used if the food was not served in the home:

N not served in home
1 dislike very much
2 dislike moderately
3 accept indifferently
4 like moderately well
5 like very much

Parents' Claims on Child's Food Preferences

The numbers one through five and N were also assigned to the description of the child's preferences as claimed by the mother and by the father. These shall be referred to as PCM and PCF. This information was checked by each parent on sheets (see Appendix D) listing the same sixty-nine foods on which the parents checked their preferences which were the same foods served the children during the data collection.

Child's Actual Consumption

The child's actual consumption of each food at each of the forty-five luncheon meals was determined by the researcher who measured plate waste and subtracted plate waste from the total food served. The percentage of each individual food eaten at each meal was obtained

and subsequently averaged for the total number of times that particular food was served during the nine weeks period.

II. DATA ANALYSIS

The following relationships were determined in this study on food preferences:

Father's preference to child's average consumption (FP-CAC)
Mother's preference to child's average consumption (MP-CAC)
Father's preference to preference of child as indicated by father (FP-PCF)
Mother's preference to preference of child as indicated by mother (MP-PCM)
Preference of child by father to preference of child by mother (PCF-PCM)

These relationships were determined by finding the correlation co-efficients, and by using Fisher's table for the conversion of co-efficients, Pearson r's were converted to z's, averaged and reconverted to r's. The results of these findings are shown in Table I. In this analysis, a correlation of .600 was considered high, .450 to .600 as moderate, and .300 to .450 as low. The distribution of these relationships are given in Table II and will be referred to in the following paragraphs.

The Relationship FP-CAC and MP-CAC

Although the writer had expected there to be similarity in parents' food preferences and the food preferences of their children, this did not prove true. In none of the twenty-four cases did the results of this study give a high or even moderate correlation between FP-CAC or MP-CAC. The child's consumption had little relation to either of his parents' preferences.

TABLE I

CORRELATION COEFFICIENTS OBTAINED IN THE STUDY OF TWENTY-FOUR NURSERY SCHOOL CHILDREN INDICATING FOOD PREFERENCE RELATIONSHIPS

Child	FP-PCF	MP-PCM	FP-CAC	MP-CAC	PCF-CAC	PCM-CAC	PCF-PCM *
1	.293	-.072	-.024	-.027	.353	.365	.479
2	.067	-.163	-.119	-.234	.319	.318	.902
3	.389	.453	.324	.328	.475	.368	.479
4	.221	.015	.183	.231	.496	.454	.531
5	.881	.471	.098	.281	.073	.190	.431
6	.118	.267	.081	.163	.454	.358	.988
7	.548	.138	.175	-.063	.382	.511	.444
8	.183	.113	.238	-.072	.535	.572	.919
9	.326	-.069	-.055	-.106	.226	.309	.697
10	.388	.222	.393	.156	.434	.478	.373
11	.924	.134	-.107	.088	.003	.289	.196
12	-.394	.159	-.409	.052	.651	.623	.911
13	.312	.228	.139	.083	.375	.544	.834
14	.321	.681	.232	.283	.557	.544	.696
15	-.048	-.013	-.197	.178	.605	.623	.963
16	.285	.319	.110	.216	.274	.448	.602
17	.015	.014	-.196	-.284	.460	.525	.689
18	.809	.848	.068	.246	-.052	.190	.028
19	.287	.215	.236	.021	.401	.405	.934
20	.177	-.206	.212	-.380	.263	.393	.562
21	-.124	.126	.077	-.231	.454	.447	.714
22	-.085	.359	-.201	.109	.445	.348	.615
23	.572	.332	.277	.225	.470	.508	.689
24	-.111	.514	-.058	.305	.554	.571	.741
Avg. "r" **	.38	.24	.06	.05	.40	.44	.74

*Explanation of symbols: FP - father's preference, MP - mother's preference, PCF - preference of child as indicated by father, PCM - preference of child as indicated by mother, CAC - child's average consumption.

**The average r was obtained by converting Pearson r's into corresponding co-efficients, computing average for z's, and re-converting to r's.

TABLE II

DISTRIBUTION OF FOOD PREFERENCE RELATIONSHIPS

Food Preference Relationships*	Frequency of Occurrence**			Percentage of Occurrence		
	High	Moderate	Low	High	Moderate	Low
FP-PCF	3	2	19	12%	8%	80%
MP-PCM	2	3	19	8%	12%	80%
FP-CAC	0	0	24	0	0	100%
MP-CAC	0	0	24	0	0	100%
PCF-CAC	2	10	12	8%	42%	50%
PCM-CAC	2	9	13	8%	38%	54%
PCF-PCM	15	4	5	63%	16%	21%

*Symbols Used: FP - Father's Preference
MP - Mother's Preference
PCF - Preference of Child Indicated by Father
PCM - Preference of Child Indicated by Mother
CAC - Child's Average Consumption

** In this analysis a correlation of .600 was considered high, .450 to .600 moderate, and .300 to .450 as low.

The Relationship of FP-PCF and MP-PCM

Eighty per cent or nineteen mothers and nineteen fathers repudiated the researcher's hypothesis that parents think their children's food preferences are the same as their own food preferences. Twelve per cent or in three cases the fathers claimed their child's preferences the same as their own as shown by a high correlation in FP-PCF. In eight per cent or two cases a moderate correlation was obtained.

For further analysis, it should be noted that in four of the five cases giving a high or moderate correlation in FP-PCF, there was obtained a low correlation in PCF-CAC. This indicated that the foods the father thought his child preferred were not the ones the child actually consumed.

The percentages were reversed from the fathers in the mother's results, with eight per cent or two cases giving a high correlation and twelve per cent or three cases giving a low correlation. Although there was similarity in the percentages obtained in the correlations between mothers and fathers, it should be noted that with only one exception, the parents of the same child did not give the same results.

For further analysis of these five mothers rating high or moderate on MP-PCM, there were four moderate correlations on PCM-CAC. These results indicate that these mothers were aware of their children's preferences even though they were similar to their own preferences.

The Relationship of PCF-CAC and PCM-CAC

Were the parents able to predict accurately their child's preferences? Eight per cent of the parents or two mothers and two fathers predicted with a high degree of accuracy their child's food preferences. It should be noted that these were both mothers and fathers of two of the children. These two children had unusual eating patterns, therefore, making judgement not too difficult.

One three year old child was a very poor eater. In the nursery school she did not even taste twenty-three of the sixty-nine foods served. Her mother had commented that she would not even taste a raw or cooked vegetable, therefore, she had been reluctant to take her baby food away from her. She continued to serve her a large jar of junior vegetables and a small jar of baby meat each day.

The second child, a four year old, enjoyed the pattern of meat, bread and potatoes with lots of ketchup. He did not taste twenty of the sixty-nine foods served. His parents were conscious of this pattern of eating and were trying to improve it by eliminating from the family table most breads and desserts. Meats, fruits, and vegetables were always served and available for selection by the child. There was no coersion by the parents but encouragement was given to try a variety of foods.

Moderate correlations were obtained in ten cases or forty-two per cent of the fathers (PCF-CAC) and nine cases or thirty-eight per cent of the mothers (PCM-CAC) in regard to the parents' claims on their child's food preferences and the child's actual consumption. An even greater percentage predicted less accurately with fifty per cent or twelve

cases of the fathers and fifty-four per cent or thirteen cases of the mothers giving low correlations.

In order to determine whether or not the fathers' and mothers' ideas on their child's preferences were similar, correlations were obtained between PCF and PCM. Fifteen cases or sixty-three per cent of these parents resulted in a high correlation. This category was the only category in which a high correlation was the result in any more than twelve per cent of the cases. This sixty-three per cent high correlation emphasizes that the mothers and fathers in this study were in agreement in their lack of knowledge of their nursery school child's food preferences.

In summarizing the results obtained in this study on food preferences, it should be noted that results of varying levels, from high to low, were obtained in all categories except FP-CAC and MP-CAC. These two categories of parents' food preferences to child's consumption were uniformly low throughout. Low correlations were obtained when results were totaled and averaged in all other categories. On the average, the parents of the nursery school children in this study had similar ideas, did not expect their child's food preferences to be the same as their own, although they lacked a knowledge of their child's food preferences.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

I. SUMMARY

Children's food preferences as they relate to their parents' food preferences and to the claims of their food preferences by their parents were investigated in this study. The study was important in its relation to health and family life. The provision of adequate food, its consumption, and the cultivation of desirable attitudes toward food are related to the growth and development of young children.

The location of the study was the Nursery School at the Woman's College of the University of North Carolina. Participating in the research were twelve boys and twelve girls, ages three and four, and the parents of these same children. The parents checked their food preferences on the sixty-nine foods which were to be served the children in the nursery school. The parents also checked their children's preferences on these same foods. The children's food preferences were calculated by recording plate waste and determining the percentage of consumption of each food during nine weeks of luncheon meals.

Gesell and Ilg,[1] Lowenberg,[2] and Sweeny and Breckenridge[3] have

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[1]Gesell and Ilg, loc. cit. [2]Lowenberg, loc. cit.

[3]Sweeny and Breckenridge, loc. cit.

been among the numerous individuals who have conducted research resulting in guides for feeding nursery school children. Actual research on food preferences remains quite limited. Helpful contributions to food preference studies have been made by Leverton[4] on both rural and urban high school students. Studies by Vance[5] and by Vance and Temple[6] measured food preferences of three and four year olds by the order of tasting and finishing. McCarthy[7] investigated food preferences and aversions of a group of young children and their relationships among members of their families. Lowenberg and Bryan[8] set out to measure the influence of a father on his preschool child's food preferences. Lamb and Ling[9] investigated food consumption and preferences of the preschool child as related to the adequacy of his diet. Food preferences as related to differential of sexes among college students was investigated by Wallen.[10]

Almost any research conducted on nursery school children and the food they eat must give consideration to food preferences. The writers cited have made at least slight references to factors influencing food preferences even when the research was conducted on a different phase of nursery school feeding.

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[4]Leverton, loc. cit. [5]Vance, loc. cit.

[6]Vance and Temple, loc. cit. [7]McCarthy, loc. cit.

[8]Lowenberg and Bryan, loc. cit. [9]Lamb and Ling, loc. cit.

[10]Wallen, loc. cit.

Results of this study indicated that there was no relationship between the parents' food preferences and the food actually consumed (FP-CAC and MP-CAC) by the twenty-four children in this study. A larger percentage of fathers (FP-PCF), twelve per cent, than of mothers (MP-PCM), eight per cent, listed their child's food preferences the same as their own; however, eighty per cent of both mothers and fathers did not feel that there was any similarity in the foods they preferred to the foods their nursery school child preferred.

Eight per cent of the mothers (PCM-CAC) and eight per cent of the fathers (PCF-CAC) designated their child's food preferences directly in relation to the actual food consumption by the child. A larger percentage of both mothers, forty-two per cent, and fathers, thirty-eight per cent, however, were not keenly aware of their child's food preferences.

Results of this study have shown that small percentages of either or both parents have had a slight knowledge of their nursery school child's food preferences. The majority of both parents did not expect their child to prefer the same foods as they did themselves (FP-PCF), (MP-PCM), however, their knowledge of the child's preferences (PCM-CAC), PCF-CAC) rated quite low. The fathers' knowledge of preferences rated slightly higher than the mothers' knowledge. Totals and averages, however, indicate that these parents were not well aware of their child's food preferences and on this point mothers and fathers agree with a high correlation of PCF-PCM.

II. ANALYSIS OF CONCLUSION

It was concluded that the food preferences of the nursery school children in this study were very seldom the same as their parents' food preferences. It could be perceived that there was little influence exercised by the children's classmates and teachers. Approximately half of these children had eaten this luncheon meal together for over a year; for others the association had existed for approximately six months. In the pleasant well staffed nursery school it is conceivable that foods might be eaten which would not be tasted at home.

The lack of a high or moderate correlation obtained between the mothers' or the fathers' food preferences and the child's consumption (MP-CAC, FP-CAC) was possibly due to the selection of foods and method of preparation of the foods on the check list. All the foods on the list were prepared simply, retaining as much of the natural flavor as possible. Spices and seasonings were used in limited amounts and over cooking was avoided. The menus were planned using foods suitable for children including as Lowenberg[11] suggests, soft desserts, ground meat, and the elimination of rich and highly seasoned foods. These foods are not always the foods chosen by adults as favorites.

The low correlations discovered in the parents' ability to judge their child's food preferences (PCF-CAC, PCM-CAC) came as a surprise to this writer. Conversations with the parents of these children in the

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[11] Lowenberg, loc. cit.

initial interview indicated a more than average interest in their children's activities and eating habits. Childrens' preferences are quite changeable and unpredictable from one meal to the next. If a parent had been questioned before each mealas to the child's preferences results would likely have been quite different.

The agreement of parents (PCM-PCF), regardless of how they felt indicated family unity in regard to knowledge of food preferences. It is important that parents are interested in providing nourishing, well balanced meals for their nursery school children. Too much emphasis on daily preferences is unnecessary since the small child's patterns are constantly changing. Endorsement is added to a quotation from Aldrich and Aldrich[12] "Eating is one of the fundamental pleasures of life to which we all have a right."

III. RECOMMENDATIONS

It is recommended that this same study be conducted with a change in the procedure for securing the child's preferences as claimed by the parents. It is the researcher's hypothesis that results would be different from those obtained in this study, if these preferences were checked daily by the parents on that same day's nursery school menu.

Further study recommended is the investigation on the relationship of fathers' food preferences to their son's preferences and to their

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[12] C. Anderson Aldrich and Mary M. Aldrich, Babies Are Human Beings (New York: The MacMillan Company, 1949) p. 73.

daughter's preferences; of mother's food preferences to their son's preferences and to their daughter's preferences.

A follow up study on these same children would be of interest in a year, five years or more. This would be a study on food preferences to determine the changes made over a period of time.

A food preference study which would be of interest would be an investigation of food preferences of nursery school children when they enter nursery school their first year. A second investigation would take place at the end of their second year to determine the changes made in food preferences. This could be compared with a similar study of children the same ages who had no nursery school experience.

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APPENDIX

January 26, 1962

Dear Mr. and Mrs. (Parent's name entered here)

As a graduate student in the field of Child Development and Family Relations in the School of Home Economics I am conducting a study of food preferences of parents and foods selected by nursery school children.

We are asking your assistance and cooperation in this research program. We are asking the parents, both the mother and the father, of each nursery school child for information regarding the parent's food preferences. Will you please read the instructions at the top of each sheet. The father is to check the blue sheet and the mother the pink sheet.

As soon as possible, please return both checked sheets in the stamped addressed envelope attached, to Mrs. JoAnn S. Hodge, 3918 Frazier Road, Greensboro, North Carolina. A second sheet will be mailed to you at a later date with instructions enclosed.

We appreciate your cooperation.

Yours very truly,
JoAnn S. Hodge
Graduate Student

Helen Canaday
Associate Professor of
Child Development

APPENDIX A

FIRST LETTER OF INTRODUCTION AND EXPLANATION TO PARENTS ACCOMPANYING CHECK SHEET OF PARENTS FOOD PREFERENCES

SUBJECT: PARENT'S FOOD PREFERENCES

CHILD'S NAME _____ DATE _____

PARENT'S NAME _____ CHECK (✓) FATHER ____ MOTHER ____

Please check (✓) to the left of each food listed below the foods which are served in your home.
Please check (✓) to the right of each food the column which best describes your preference for those foods served in your home.
Do not discuss your answers with anyone.

FOOD	Like Very Much	Like Moderately Well	Accept Indifferently	Dislike Moderately	Dislike Very Much
MAIN DISHES					
Beef:					
Beef Stew with Vegetables (Potatoes, Onions, Carrots and Green Peas)					
Broiled Beef Patties					
Meat Loaf					
Roast Beef					
Fish:					
Pan Broiled Flounder					
Salmon Loaf					
Tuna Chunks					
Pork:					
Bacon Strips					
Baked Ham					
Poultry:					
Roast Chicken					
Variety Meats:					
Broiled Liver Strips					

APPENDIX B

CHECK SHEET FOR PARENT'S FOOD PREFERENCES

FOOD	Like Very Much	Like Moderately Well	Accept Indifferently	Dislike Moderately	Dislike Very Much
Frankfurters					
Eggs:					
Boiled Egg Halves					
Scrambled Eggs					
Misc. Main Dishes:					
Chicken Noodle Soup					
Macaroni and Cheese					
Spaghetti with Meat and Tomato Sauce					
VEGETABLES, COOKED (Vegetables are steamed and served with butter, unless otherwise described.)					
Baby Green Limas					
Beets					
Broccoli Tips					
Cabbage					
Carrots					
Corn					
Green Beans					
Green Peas					
Grits					
Mixed Vegetables					
Potatoes, Irish:					
Buttered Potatoes					
Mashed Potatoes					
Summer Squash					
Potato Salad (Eggs, Pickles, Salad Dressing)					
Rice					
Spinach					
Sweet Potatoes (Mashed with Marshmallows)					
Tomatoes, Stewed					
VEGETABLES AND FRUIT, RAW:					
Apple Wedges					
Cabbage Slaw					

FOOD	Like Very Much	Like Moderately Well	Accept Indifferently	Dislike Moderately	Dislike Very Much
Carrot Sticks					
Celery Sticks					
Lettuce Leaves					
Tomatoes, Sliced or Wedges					
BREADS:					
Biscuits					
Blueberry Muffins					
Cornbread					
Pimento Cheese Sandwich					
Saltine Crackers					
White Enriched Bread:					
Plain					
Toasted					
Whole Wheat Bread:					
Plain					
Toasted					
DESSERTS:					
Applesauce					
Apricot Halves, Canned					
Banana Pudding					
Cherry Gelatin					
Cookies:					
Butter Cookies					
Shortbread Cookies					
Cup Cakes					
Gingerbread, Plain					
Gingerbread with Lemon Sauce					
Ice Cream:					
Chocolate					
Strawberry					
Vanilla					
Peach Slices, Canned					

FOOD	Like Very Much	Like Moderately Well	Accept Indifferently	Dislike Moderately	Dislike Very Much
Pears with Maraschino Cherry Chips, Canned					
Pineapple Cubes, Canned					
Pudding: Chocolate					
Vanilla					
Stewed Apples					
BEVERAGE: Milk					

COMMENTS:

February 12, 1962

Dear Mr. and Mrs. (Parent's name entered here)

We are asking your cooperation for additional information in regard to the study of food preferences of parents and foods selected by nursery school children.

Will you please read the instructions at the top of each sheet. The father is to check the blue sheet and the mother check the pink sheet. The information is to be the sole opinion of the individual checking the sheet. There is to be no consultation between mother and father or between either parent and the nursery school child.

As soon as possible, please return both checked sheets in the stamped addressed envelope attached, to Mrs. JoAnn S. Hodge, 3918 Frazier Road, Greensboro, North Carolina.

We appreciate your cooperation.

Yours very truly,
JoAnn S. Hodge
Graduate Student

Helen Canaday
Associate Professor of
Child Development

APPENDIX C

SECOND LETTER OF EXPLANATION TO PARENTS ACCOMPANYING CHECK SHEET OF CHILD'S FOOD PREFERENCES

SUBJECT: YOUR CHILD'S FOOD PREFERENCES

CHILD'S NAME _____ DATE _____

PARENT'S NAME _____ CHECK (✓) FATHER ____ MOTHER ____

Below is a list of familiar foods, please check (✓) to the left of each food the foods which are served in your home.

Please check (✓) to the right of each food the column which best describes what you think is the food preference of your nursery school child.

Do not discuss your answers with anyone.

FOOD	Like Very Much	Like Moderately Well	Accept Indifferently	Dislike Moderately	Dislike Very Much
MAIN DISHES:					
Beef:					
Beef Stew with Vegetables (Potatoes, Onions, Carrots and Green Peas					
Broiled Beef Patties					
Meat Loaf					
Roast Beef					
Fish:					
Pan Broiled Flounder					
Salmon Loaf					
Tuna Chunks					
Pork:					
Bacon Strips					
Baked Ham					
Poultry:					
Roast Chicken					
Variety Meats:					
Broiled Liver Strips					

APPENDIX D

CHECK SHEET FOR CHILD'S FOOD PREFERENCES

FOOD	Like Very Much	Like Moderately Well	Accept Indifferently	Dislike Moderately	Dislike Very Much
Frankfurters					
Eggs:					
Boiled Egg Halves					
Scrambled Eggs					
Misc. Main Dishes:					
Chicken Noodle Soup					
Macaroni and Cheese					
Spaghetti with Meat and Tomato Sauce					
VEGETABLES, COOKED (Vegetables are steamed and served with butter, unless otherwise described.)					
Baby Green Limas					
Beets					
Broccoli Tips					
Cabbage					
Carrots					
Corn					
Green Beans					
Green Peas					
Grits					
Mixed Vegetables					
Potatoes, Irish:					
Buttered Potatoes					
Mashed Potatoes					
Summer Squash					
Potato Salad (Eggs, Pickles, Salad Dressing)					
Rice					
Spinach					
Sweet Potatoes (Mashed with Marshmallows)					
Tomatoes, Stewed					
VEGETABLES AND FRUIT, RAW:					
Apple Wedges					
Cabbage Slaw					

FOOD	Like Very Much	Like Moderately Well	Accept Indifferently	Dislike Moderately	Dislike Very Much
Carrot Sticks					
Celery Sticks					
Lettuce Leaves					
Tomatoes, Sliced or Wedges					
BREADS:					
Biscuits					
Blueberry Muffins					
Cornbread					
Pimento Cheese Sandwich					
Saltine Crackers					
White Enriched Bread:					
Plain					
Toasted					
Whole Wheat Bread:					
Plain					
Toasted					
DESSERTS:					
Applesauce					
Apricot Halves, Canned					
Banana Pudding					
Cherry Gelatin					
Cookies:					
Butter Cookies					
Shortbread Cookies					
Cup Cakes					
Gingerbread, Plain					
Gingerbread with Lemon Sauce					
Ice Cream:					
Chocolate					
Strawberry					
Vanilla					
Peach Slices, Canned					

FOOD	Like Very Much	Like Moderately Well	Accept Indifferently	Dislike Moderately	Dislike Very Much
Pears with Maraschino Cherry Chips, Canned					
Pineapple Cubes, Canned					
Pudding: Chocolate					
Vanilla					
Stewed Apples					
BEVERAGE: Milk					

COMMENTS:

First Week	Second Week	Third Week
Meat Loaf	Scrambled Eggs	Frankfurters
Buttered Green Peas	Bacon Strips	Potato Salad (Pickles, Eggs, Salad Dressing)
Stewed Tomatoes	Buttered Grits	Buttered Spinach
Celery Sticks	Tomato Wedge	Carrot Strips
Whole Wheat Toast	Lettuce Leaf	Whole Wheat Toast
Milk	Whole Wheat Toast	Milk
Vanilla Ice Cream Cup Cake	Milk	Apricot Halves
	Apple Sauce Shortbread Cookie	
Roast Chicken		Baked Ham
Buttered Rice	Roast Beef	Mashed Sweet Potatoes (with Marshmallows)
Buttered Carrots	Mashed Potatoes	Buttered Cabbage
Lettuce and Tomato Salad	Summer Squash	Pineapple Cubes
Toasted White Bread	Raw Apple Rings	Biscuits
Milk	Blueberry Muffins	Milk
Pear and Cherry Chip	Milk	Chocolate Pudding
	Cherry Gelatin	
Chicken Noodle Soup	Tuna Chunks	Spaghetti with Meat and Tomato Sauce
Saltine Crackers	Buttered Spinach	Buttered Broccoli Tips
Pimento Cheese Sandwiches-Brown Bread	Boiled Egg Halves	Lettuce Wedges
Carrot Sticks	Buttered Rice	White Bread Toasted
Milk	Carrot Sticks	Milk
Gingerbread with Lemon Sauce	Corn Bread Squares	Stewed Apples
	Milk	
	Pineapple Cubes Butter Cookie	
Broiled Liver Strips		Broiled Beef Patties
Buttered Corn	Beef Stew with Green Peas, Potatoes, Onions, Carrots	Buttered Potato Cubes
Buttered Green Beans		Buttered Green Peas
Apple Wedge	Celery Sticks	Apple Wedges
Whole Wheat Bread	Whole Wheat Bread	White Bread Squares
Milk	Milk	Milk
Canned Peach Slices	Chocolate Ice Cream Cup Cake	Vanilla Ice Cream Cup Cake
Salmon Loaf		Pan Broiled Flounder
Buttered Beet Cubes	Macaroni and Cheese	Baby Green Limas
Buttered Potatoes	Mixed Vegetables	Buttered Carrots
Lettuce Leaf	Cabbage Slaw	Tomato Wedge
White Bread Squares	Whole Wheat Bread	White Bread Toasted
Milk	Milk	Milk
Banana Pudding	Vanilla Pudding	Strawberry Ice Cream Cup Cake

APPENDIX E

LUNCHEON MENUS USED IN STUDY

Fourth Week

Meat Loaf
Buttered Green Peas
Stewed Tomatoes
Celery Sticks
Whole Wheat Toast
Milk
Vanilla Ice Cream
Cup Cake

Roast Chicken
Buttered Rice
Buttered Carrots
Lettuce and Tomato Salad
Toasted White Bread
Milk
Pear and Cherry Chip

Chicken Noodle Soup
Saltine Crackers
Pimento Cheese Sandwiches
Carrot Sticks
Milk
Gingerbread with Lemon Sauce

Broiled Liver Strips
Buttered Corn
Buttered Green Beans
Apple Wedges
Whole Wheat Bread
Milk
Canned Peach Slices

Salmon Loaf
Buttered Beet Cubes
Buttered Potatoes
Lettuce Leaf
White Bread Squares
Milk
Chocolate Ice Cream
Cup Cake

Fifth Week

Scrambled Eggs
Bacon Strips
Buttered Grits
Tomato Wedges
Lettuce Leaf
Whole Wheat Toast
Milk
Vanilla Ice Cream
Cup Cake

Roast Beef
Mashed Potatoes
Summer Squash
Raw Apple Rings
Blueberry Muffins
Milk
Vanilla Pudding

Tuna Chunks
Buttered Spinach
Boiled Egg Halves
Buttered Rice
Carrot Sticks
Corn Bread Squares
Milk
Pineapple Cubes
Butter Cookie

Beef Stew with Green Peas, Potatoes, Onions, Carrots
Whole Wheat Bread
Celery Sticks
Milk
Cherry Gelatin

Macaroni and Cheese
Mixed Vegetables
Cabbage Slaw
Whole Wheat Bread
Milk
Strawberry Ice Cream
Cup Cake

Sixth Week

Frankfurters
Potato Salad (Pickles, Eggs, Salad Dressing)
Buttered Spinach
Carrot Strips
White Bread Toasted
Milk
Apricot Halves

Baked Ham
Mashed Sweet Potatoes (with Marshmallows)
Buttered Cabbage
Pineapple Cubes
Biscuits
Milk
Applesauce
Shortbread Cookie

Spaghetti with Meat and Tomato Sauce
Buttered Broccoli Tips
Lettuce Wedge
Whole Wheat Toast
Milk
Cherry Gelatin

Broiled Beef Patties
Buttered Potato Cubes
Buttered Green Peas
Apple Wedges
White Bread Squares
Milk
Stewed Apples

Pan Broiled Flounder
Baby Green Limas
Buttered Carrots
Tomato Wedge
White Bread Toasted
Milk
Chocolate Pudding

Seventh Week	Eighth Week	Ninth Week
Meat Loaf Buttered Green Peas Stewed Tomatoes Celery Sticks Whole Wheat Toast Milk Pear and Cherry Chip Cup Cake	Scrambled Eggs Bacon Strips Buttered Grits Tomato Wedge Lettuce Leaf Whole Wheat Toast Milk Apple Sauce Shortbread Cookie	Frankfurters Potato Salad (Pickles, Eggs, Salad Dressing) Buttered Spinach Carrot Strips White Bread Toasted Milk Apricot Halves Cup Cakes
Roast Chicken Buttered Rice Buttered Carrots Lettuce and Tomato Salad Toasted White Bread Milk Gingerbread with Lemon Sauce	Roast Beef Mashed Potatoes Summer Squash Raw Apple Rings Blueberry Muffins Milk Cherry Gelatin Cup Cake	Baked Ham Mashed Sweet Potatoes (with Marshmallows) Buttered Cabbage Pineapple Cubes Biscuits Milk Vanilla Ice Cream
Chicken Noodle Soup Saltine Crackers Pimento Cheese Sandwiches Carrot Sticks Milk Vanilla Ice Cream	Tuna Chunks Buttered Spinach Boiled Egg Halves Buttered Rice Carrot Sticks Corn Bread Squares Milk Pineapple Cubes Butter Cookie	Spaghetti with Meat and Tomato Sauce Buttered Broccoli Tips Lettuce Wedges Whole Wheat Toast Milk Stewed Apples
Broiled Liver Strips Buttered Corn Buttered Green Beans Apple Wedges Whole Wheat Bread Milk Canned Peach Slices Cup Cake	Beef Stew with Green Peas, Potatoes, Onions, Carrots) Celery Sticks Whole Wheat Bread Milk Chocolate Ice Cream	Broiled Beef Patties Buttered Potato Cubes Buttered Green Peas Apple Wedges White Bread Squares Milk Strawberry Ice Cream
Salmon Loaf Buttered Beet Cubes Buttered Potatoes Lettuce Leaf White Bread Squares Milk Banana Pudding	Macaroni and Cheese Mixed Vegetables Cabbage Slaw Whole Wheat Bread Milk Vanilla Pudding	Pan Broiled Flounder Baby Green Limas Buttered Carrots Tomato Wedge White Bread Toasted Milk Chocolate Pudding

CHILD'S NAME _____ DATE _____

NAME OF OBSERVER _____

Under columns A and B check (✓) the blank which best describes the child's physical condition and emotional behavior on the particular day observed. Additional comments should be written in space provided.

A. Child's Physical Condition	B. Child's Emotional Behavior
____1. Feels definitely sick	____1. Upset
____2. Feels slightly sick	____2. Indifferent
____3. Feels all right	____3. Pleasant
____4. Feels unusually well	____4. Exuberant

COMMENTS:

APPENDIX F

FORM USED IN RECORDING CHILD'S PHYSICAL CONDITION AND EMOTIONAL BEHAVIOR

CHILD'S NAME _____ DATE _____

RECORDER'S NAME _____

Please record the day's menu, the amount of the serving when the plate was placed on the table, the amount of additional servings, and the amount of plate waste. Additional comments should be written in space provided.

DAY'S MENU	AMOUNT OF SERVING	AMOUNT OF ADDITIONAL SERVINGS	AMOUNT OF PLATE WASTE

COMMENTS:

APPENDIX G

FORM USED IN RECORDING PLATE WASTE